

**Appl. No.** : **Unknown**  
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**AMENDMENTS TO THE SPECIFICATION:**

**Please amend paragraphs 0001, 0050, 0052, 0077, 0092, 0105, 0106, 0107, 0100, 0118, 0119, 0121, and 0122 as follows:**

**[0001]** This application is a continuation of U.S. Patent Application No. 10/113,922, filed March 29, 2002, which is based on and claims priority to Japanese Patent Applications No. 2001-112642, filed April 11, 2001 and No. 2001-288524, filed September 21, 2001 the entire contents of all of which is hereby expressly incorporated by reference.

**[0050]** In general, the ISC device 96 comprises an air passage 100 that bypasses a throttle valve assembly 102. Air flow through the air passage 100 of the ISC device 96 preferably is controlled with a suitable valve 104 (not shown), which may be a needle valve or the like. In this manner, the air flow amount can be controlled in accordance with a suitable control routine, one of which is discussed below.

**[0052]** With reference to Figure 7 Figure 6, a throttle valve position sensor 112 preferably is arranged proximate the throttle valve assembly 102 in the illustrated arrangement. The sensor 112 preferably generates a signal that is representative of either absolute throttle position or movement of the throttle shaft. Thus, the signal from the throttle valve position sensor 112 corresponds generally to the engine load, as may be indicated by the degree of throttle opening. In some applications, a manifold pressure sensor 114 can also be provided to detect engine load. Additionally, an induction air temperature sensor 116 can be provided to detect induction air temperature. The signal from the sensors 112, 114, 116 can be sent to the ECU 98 via respective data lines. These signals, along with other signals, can be used to control various aspects of engine operation, such as, for example, but without limitation, fuel injection amount, fuel injection timing, ignition timing, ISC valve positioning and the like.

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[0077] With reference now to Figure 7, a schematic diagram can be seen of an alarm system control system 188. An oil pressure measured by the an oil pressure sensor 170, oil temperature measured by an oil temperature sensor 172, as well as an engine speed measured by the engine speed sensor 77 are inputted into the ECU 98. This data is used in various processes in order to determine if and/or when to warn the user of an inadequate oil pressure through an alarm buzzer 174 and alarm light 176. Warning oil pressures are determined through a warning oil pressure determination process 178 from information acquired from an oil pressure determination timer 180 as well as the oil pressure itself. The determined warning oil pressure together with a continuation timer 182 and a critical engine speed determination process 184 trigger the alarm buzzer and light 174, 176 in order to warn the operator of inadequate oil pressure. The operator may stop the engine at any time using an engine stop switch 186.

[0092] In decision block P4 it is determined if an oil pressure decrease has occurred. This oil pressure decrease is determined by the ECU 98 by comparing the present oil pressure with ~~an oil pressure limit threshold  $P_{Tx}$~~  the alarm pressure threshold  $P_{Tx}$  depending on engine speed as seen in Figure 12.

[0105] In operation block P24 ~~a-~~ the correct warning oil pressure  $P_{Tx}$  alarm pressure threshold  $P_{Tx}$  is determined based on engine speed as shown in Figure 12. The correct warning oil pressure  $P_{Tx}$  alarm pressure threshold  $P_{Tx}$  is determined using a variety of different variables including, but not limited to engine speed and oil temperature. The control routine 191 then moves to decision block P26.

[0106] In decision block P26 it is determined if the actual oil pressure  $P_x$  is less than the predetermined warning oil pressure  $P_{Tx}$  alarm pressure threshold  $P_{Tx}$ . If the actual oil pressure  $P_x$  is less than the predetermined warning oil pressure  $P_{Tx}$  alarm pressure threshold  $P_{Tx}$ , the control routine 191 moves to operation block P32 where the alarm buzzer and light are activated for a predetermined amount of time to accurately warn the user of inadequate oil pressure.

[0107] If, however in decision block P26 the actual oil pressure  $P$  is not less than the predetermined warning oil pressure  $P_{Tx}$  alarm pressure threshold  $P_{Tx}$ , the control routine 191 moves to decision block P28.

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[0110] In decision block P30 it is determined if the number of pressure changes  $F_p$  are greater than a predetermined number of inadequate oil pressure warnings  $F_{pt}$ . The pressure changes compared in decision block P30 may be caused by fluctuations in oil pressure due to air entering the system. A fluctuating oil pressure situation is illustrated in Figure 10.

[0118] With reference now to Figure 13, a control routine 193 is shown that is arranged and configured in accordance with certain features, aspects and advantages of the present invention. The control routine 193 begins and moves to a first decision block P40 where it is determined if the actual oil pressure  $P_x$  is greater than or equal to ~~a-~~ the predetermined warning oil pressure  $P_{tx}$  alarm pressure threshold  $P_{TX}$ . The warning oil pressure  $P_x$  is determined using a variety of different variables including, but not limited to engine speed as shown in Figure 12. If the actual oil pressure  $P_x$  is greater than or equal to ~~a-~~ the predetermined warning oil pressure  $P_{tx}$  alarm pressure threshold  $P_{TX}$ , the control routine 193 returns to the beginning and repeats.

[0119] If, however the actual oil pressure  $P_x$  is not greater than or equal to ~~a-~~ the predetermined warning oil pressure  $P_{tx}$  alarm pressure threshold  $P_{TX}$ , the control routine 193 moves to decision block P44 where the actual engine speed  $R$  is compared to a predetermined warning speed  $R_a$ . The predetermined warning speed represents the lowest speed of the engine where enough oil pressure is produced, (for example  $R_a < 1000$  rpm).

[0121] In decision block P48 the actual oil pressure  $P_x$  is again compared to the predetermined warning oil pressure  $P_{tx}$  alarm pressure threshold  $P_{TX}$ . If the actual oil pressure  $P_x$  is greater than or equal to the predetermined warning oil pressure  $P_{tx}$  alarm pressure threshold  $P_{TX}$  then the control routine 193 returns to the beginning and repeats. If, however in decision block P48 the actual oil pressure  $P_x$  is not greater than or equal to the predetermined warning oil pressure  $P_{tx}$  alarm pressure threshold  $P_{TX}$ , the control routine 193 moves to operation block P50 where the alarm buzzer and light are activated. The control routine 193 then moves to decision block P52.

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[0122] In decision block P52 the actual oil pressure  $P_x$  is again compared to the predetermined warning oil pressure  $P_x$  alarm pressure threshold  $P_{TX}$ . If the actual oil pressure  $P$  is not greater than or equal to the predetermined warning oil pressure  $P_x$  alarm pressure threshold  $P_{TX}$ , the control routine 193 returns to operation block P50. If, however the actual oil pressure  $P_x$  is greater than or equal to the predetermined warning oil pressure  $P_x$  alarm pressure threshold  $P_{TX}$ , the control routine 193 moves to operation block P54.